



Why calculate your carbon footprint?

The value of knowing your carbon emissions in a global context
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United Nations Framework Convention on Climate Change and the Paris 2015 Agreement

An agreement regarding climate action was reached by world leaders in Paris during 2015 and signed in 2016 under the United Nations Framework Convention on Climate Change (UNFCCC). As of March 2019, 195 members – including South Africa – have signed this agreement.

What is the aim of the agreement?

- Ensure that the increase in global temperature remains below 2°C above pre-industrial levels (while trying to limit temperature rise to 1.5°C).
- Increase global ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production.
- Ensure that finance flows are consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

Source: https://en.wikipedia.org/wiki/Paris_Agreement



Carbon emissions and agriculture: where do emissions come from?

The main activities in agriculture resulting in carbon emissions include the application of synthetic and organic fertilizers, the use of fossil fuels, methane emissions from livestock and land-use changes (clearing land for agriculture).

At farm level, the relative contribution of each of these activities will vary greatly depending on the crop type, weather, topography and practices employed. Agriculture contributes about 13% to total global emissions, making it the world's second-largest emitter in terms of sectoral carbon emissions¹.

¹Source: 2011 statistics reported in: <https://www.wri.org/blog/2014/05/everything-you-need-know-about-agricultural-emissions>



Carbon emissions measurement and disclosure

The Carbon Disclosure Project (CDP) is a non-profit organization that runs a global environmental disclosure system. The City of Cape Town has been included in the CDP A-list as a city leading the low carbon transition. The city has set a target to be carbon neutral by 2052².

During 2013, the CDP undertook a survey to understand agricultural carbon emissions. Of the agricultural producers targeted for the survey, only 13% reported their greenhouse gas emissions².

It is important for companies to realize that once you measure your carbon emissions, you can start setting targets to reduce them. It is also possible to create an environment within your organization that will help achieve these targets. Knowing and disclosing your carbon emissions will help you to manage your own environmental risks and opportunities, as well as providing information to your customers, investors and the market. 215 of the largest global companies report almost US\$1 trillion risk from climate impact in the next five years.

The earlier you start to measure and manage your emissions, the better for your business.

²Source: <https://www.cdp.net/en/companies-discloser/how-to-disclose-as-a-company>



Consumer and Retailer Commitments

In South African and around the globe, there is increasing pressure from retailers and consumers for the disclosure of the carbon emissions of the products that they purchase. It is therefore important for South African fruit and wine producers to comply with these market requirements. As a start, producers should measure their carbon emissions and begin putting plans in place to reduce these emissions.

A summary of the carbon emissions reduction commitments of various retailers is shown below.

Tesco⁴:

- Tesco suppliers to achieve a 7% absolute reduction in carbon emissions across their business by 2020 (covering both agriculture and manufacturing emissions)

Migros⁵:

- Expectation for all suppliers to keep their environmental impact under control and place importance on production and efficient use of resources.

ASDA⁶:

- Working with suppliers to be good stewards of nature.
- Own-brand products will not contribute to deforestation by 2020.

Sainsbury's³:

- Committed to source all key raw materials sustainably to an independent sustainability standard by 2020
- Own-brand products will not contribute to deforestation by 2020

Pick n Pay⁷:

- Promotes ethical standards across supplier base through initiatives including: WWF-SASSI, GLOBALG.A.P. and LOCALG.A.P. certification (an internationally recognised set of farming standards linked to Good Agricultural Practices).

Carrefour⁹:

- Encourages suppliers to outline quantified commitments to reduce CO₂ emissions in their direct scope and upstream value chain.

Marks & Spencers⁸:

- Will reduce indirect GHG emissions (from downstream and upstream sources) by 13.3 million tonnes by 2023 from 2017.

Walmart¹⁰:

- Under Project Gigaton™, Walmart aim to work with suppliers to avoid one billion metric tons of greenhouse gases being emitted from the global value chain by 2030.

Woolworths¹¹:

- Working with farmers to shift to sustainable farming practices through the Farming for the Future programme.

Sources

³Sainsbury's Sustainability Report 2018

⁴<https://www.tescopl.com/sustainability/sourcing/topics/environment/climate/>

⁵ Migros Responsible Sourcing Policy ⁶ [asda.com/environment/farming-nature](https://www.asda.com/environment/farming-nature)

⁷ Pick 'n Pay Sustainably living report

⁸ Marks and Spencers Plan A Report 2018

⁹ Carrefour Environmental Management Policy 2017

¹⁰ Walmart 2018 Global Responsibility Report

¹¹ WHL Good business Journey Report 2018

The value of knowing your carbon emissions in the context of South Africa



South Africa's climate change commitments

South Africa has made an Intended Nationally Determined Contribution (INDC) towards carbon emission reduction. This means that they have committed to a peak, plateau and decline (PPD) approach: The aim is for carbon emissions to peak between 2020 and 2025, plateau for roughly a decade and then start to fall. Emissions covered by the INDC include land and all sectors of the economy. The INDC also includes sections on adaptation and support needs.

National greenhouse gas emissions were **461 Mt CO₂e** in 2000, and under the INDC, will be in the range **398 - 614 Mt of CO₂e** during the period 2025 – 2030. Thereafter as per the PPD approach, national carbon emissions should start to see a significant reduction.

Sources:

<https://www4.unfccc.int/sites/NDCStaging/Pages/All.aspx>

<https://www.carbonbrief.org/paris-2015-tracking-country-climate-pledges>



Legislative context in South Africa

In South Africa there are various pieces of legislation and bills that aim to reduce carbon emissions and address climate change. These help to give effect to South Africa's climate change commitments.

Examples of notable legislation include:

- The National Greenhouse Gas Emission Reporting Regulations, 2017
- The Carbon Tax Act nr 15 of 2019.
- The Climate Change Bill



Your carbon footprint

The fruit and wine industry is taking its responsibility towards mitigating the impact of climate change seriously. This is because it recognises that climate change will completely change the way in which food is produced and sold. Climate change has been predicted to directly impact South African mean annual temperatures and rainfall. This will in turn influence production in terms of pest and disease distribution, flowering and fruiting seasons, and ground water resources. Together with Blue North Sustainability, the industry have developed an online, industry wide carbon footprint calculator that assists growers in calculating carbon emissions, identifying emission hotspots and understanding where to focus their efforts to commence on a journey to reduce their emissions.

Monitoring and managing your carbon emissions with the aim to reduce emissions is not just the right thing to do in terms of playing your part to limit climate change, but it also makes business sense. Most farms, for example, use irrigation. Energy costs can be saved by using variable speed drives to adjust pump speeds according to the irrigation requirement. Instead of a pump having to run at full speed, the pumping speed is adjusted according to the pressure needed for irrigating only the orchards that need the water. Another easy way in which farmers could save energy is by improving irrigation efficiency. This can be done by using the right sized irrigation pipes for their production requirements and ensuring that the pipes are matched with the correct and proper fittings. In addition, farmers should measure soil moisture and evaporation levels and think of using satellite technology (e.g. FruitLook) to guide and fine-tune their irrigation decisions to prevent over or under-irrigation. **By improving irrigation efficiency, farmers use less energy, which not only reduces their carbon footprint but also saves them money and water.**

A big advantage of the CCC initiative, which should be used annually, is that it allows farmers to benchmark themselves against each other. Farmers are given access to the results of other farms in their region for their commodity. All data is kept anonymous.

The value of knowing your carbon emissions in the context of South Africa



Calculating your carbon footprint... where do I start?

How can I reduce or manage my carbon emissions?

1. Start to measure your carbon related inputs (e.g. fuel, electricity, fertilizer etc.).
2. Register on the CCC online portal (www.climatefruitandwine.co.za).
3. Enter your data in the CCC carbon footprint calculator.
4. Read and analyze the detailed carbon emissions report provided once you have entered all your data correctly.
 - Look at your carbon emissions figure and compare it with the benchmark given in the report for your commodity and your region.
 - Look at the individual inputs to your business and learn from the report what percentage they attribute to your total carbon emissions. Start to manage those that cause the highest emissions in your business.
 - Look at the consumption figures (e.g. electricity used per kg of fruit produced or per ha) and compare your business with the benchmark for your region and commodity.
5. Communicate the results of your carbon footprint analysis within your organisation and incorporate the results in your management tools.
6. Address the hotspots within your organisation by implementing improved efficiency measures and targets through improved management and operational control and/or new technology where applicable, and where the budget allows.
7. Don't forget to think out of the box! Change the paradigm and aim to be innovative in your approach to adapt to climate change.

Get in touch with us – we'd love to hear from you!



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